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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,546	07/11/2003	Nathan S. Lewis	06618-892002	5173

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EXAMINER

LAU, TUNG S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/618,546

Applicant(s)

LEWIS ET AL.

Examiner

Tung S. Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 55-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 55-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Withdraw of finality

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 101

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 101 that form the basis for the rejections under this section made in this Office action:

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-24 and 55-58 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claims 1 and 55, the method for remote characterization of a gaseous sample including contacting the sensor, transmitting data, analyzing and identifying the sample. These claims appear to merely describe data transformation and lack of concrete and tangible result. The practical application of the claimed invention cannot be realized until the information determined is conveyed to the user. For the result to be tangible it would need to output to a user or stored for later use.

Hence the claims are treated as nonstatutory functional descriptive material (See MPEP § 2106 and OG Notices: 22 November 2005, Guidelines for Subject Matter Eligibility,

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

See MPEP 2106 IV B (1) (b).

For instance in claim 1, the method steps of : transmitting, analyzing and identifying are data manipulation. This fails to present a concrete, tangible useful result. An example of a concrete, tangible useful result may include displaying, storing for further use, generating a control signal etc. of the identifying.

For instance in claim 55, the method steps of : measuring, transmitting, analyzing and identifying are data manipulation. This fails to present a concrete, tangible useful result. An example of a concrete, tangible useful result may include displaying, storing for further use, generating a control signal etc. of the identifying. The applicant should review the disclosure to determine what type of tangible result is being carried out in this instant application and such limitation be included in the claim. For further guidance see

<http://www.uspto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-24, 55 and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Walt et al. (U.S. Patent 6,285,807, Filed Nov. 16, 1998).

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Regarding claim 1:

Walt discloses a method for remote characterization of a gaseous or vapor sample (fig. 4b, unit 240, Col. 8-9, Lines 62-4, array of sensors), comprising: contacting at least one sensor with a gaseous or vapor sample (fig. 4b, CO₂ gas), wherein the sample contains at least one analyte, the at least one sensor (fig. 4b, unit 240, array of sensor) comprising a composite having regions of a conductive material and a material compositionally different than the conductive material (fig. 4b, unit 240, array of sensor, unit 200 optical fiber) and wherein the at least one sensor provides a detectable signal when contacted by the at least one analyte (fig. 4b, CO₂ gas); transmitting data corresponding to the detectable signal to a remote location via the internet (Col. 26, Lines 14-17) , fiber-optic cable, and/or an air-wave frequency (Col. 26, Lines 16-20) ; analyzing the data received at the remote location (Col. 21, Lines 52-64) , and identifying the at least one analyte present in the gaseous or vapor sample thereby characterizing the sample (fig. 6, 1, 2).

Regarding claim 55:

Walt discloses a method for remote characterization of a disease in a subject (abstract) comprising: contacting at least one sensor (fig. 4b, unit 240, Col. 8-9, Lines 62-4, array of sensors) with a gaseous or vapor sample obtained from the subject (fig. 1, 2, 4b, detecting CO₂), wherein the at least one sensor provides a detectable signal when contacted by an analyte present in the sample (fig. 4b, unit 240), the at least one sensor (fig. 4b, unit 240, Col. 8-9, Lines 62-4, array of

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sensors) comprising: regions of a conductive material and regions (fig. 4b, unit 240, 220) of a material compositionally different than the conductive material (fig. 4b, 200, fiber optics), and wherein the materials provide an electrical path through the regions of conductive material (fig. 4b, unit 240, can detect CO₂ in electrical forms in fig 3, 6) and compositionally different material of the sensor (fig. 4b, unit 240), wherein interaction of the analyte with the sensor changes the resistance of the sensor (fig. 1), electrically measuring a detectable signal of the sensor (fig. 1, detect in wavelength), transmitting data corresponding to the detectable signal to a remote location (fig. 8), analyzing the data received at the remote location (fig. 8), and identifying the at least one analyte present in the gaseous or vapor sample (fig. 8) thereby characterizing the disease (fig. 8).

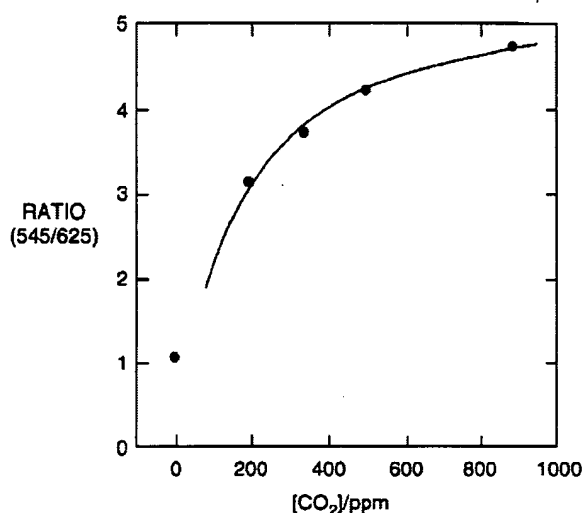
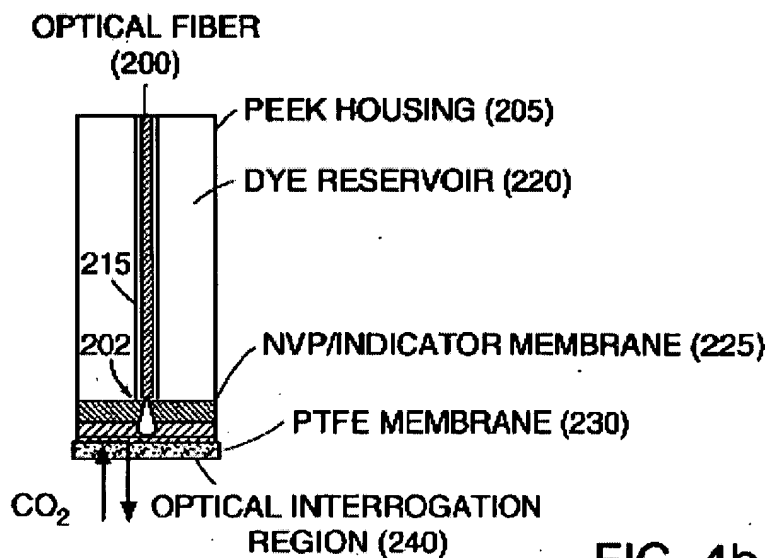


FIG. 6

Regarding claim 2, Walt further discloses plurality of sensors (fig. 4b, unit 240, Col. 8-9, Lines 62-4, array of sensors); Regarding claim 3, Walt further discloses dye-coated fiber optic sensor (fig. 4b, unit 220, 200); Regarding claim 4, Walt

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further discloses electrically conductive sensor (fig. 4b, unit 240); Regarding claim 5, Walt further discloses 5. the electrically conductive sensor comprises regions of a conductive material and a material compositionally different than the conductive material (fig. 4b, unit 240, 220, 200), wherein the sensor provides an electrical path through the regions of the conductive material and the regions of the compositionally different material (fig. 4b, unit 240, 220, 200), and wherein the conductivity changes upon adsorption with the at least one analyte (fig. 4, unit 220).

**FIG. 4b**

Regarding claim 6, Walt further discloses at least one region of compositionally different material of one sensor is a different thickness than the region of compositionally different material of at least one other sensor (fig. 4b, unit 240, 200); Regarding claim 7, Walt further discloses the compositionally different material is selected from the group consisting of polyanilines, an emeraldine, salt

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of polyanilines, polypyrroles, polythiophenes, polyEDOTs, and derivatives thereof (Col. 4, Lines 54-55); Regarding claim 9, Walt further discloses sensor is a insulator (fig. 4b, 200, 225); Regarding claim 8, Walt further discloses conductive material is Cu, (Col. 11, table 1).

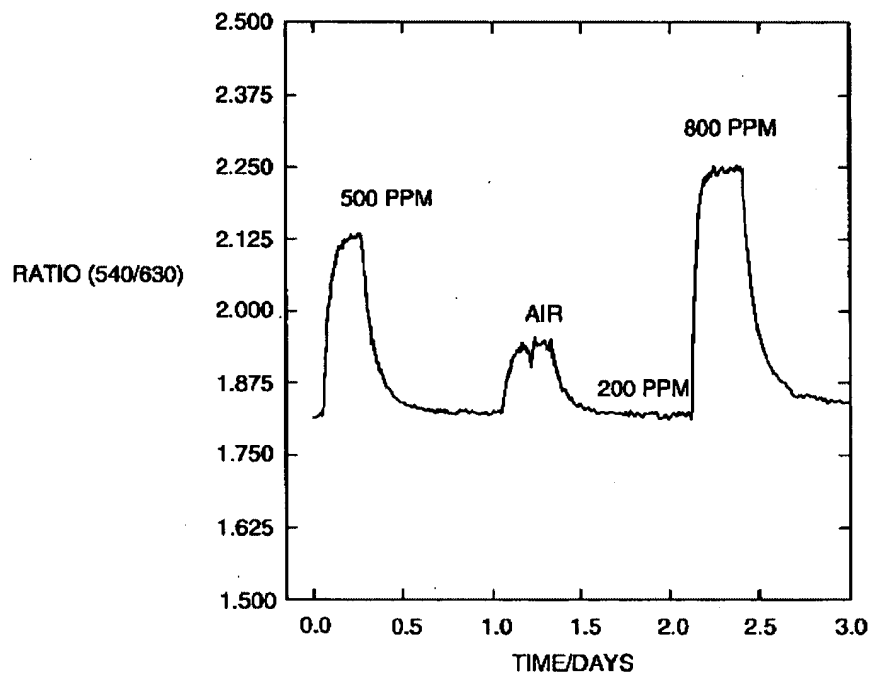


FIG. 8

Regarding claim 10, Walt further discloses conductive material (fig. 4b, 240) and non conductive material (fig. 4b, 225); Regarding claim 11, Walt further discloses data is digital representation of the signal (fig. 2); Regarding claim 12, Walt further discloses the data is a digital profile representation of the detectable signal from each of the plurality of sensors (fig. 4b, unit 200); Regarding claim 13, Walt further discloses sample is an environmental sample (Col. 3, Lines 45-59); Regarding claim 14, Walt further discloses sample is an environmental sample is air (Col. 3, Lines 45-59, fig. 4b, Co2 in air, Col. 1, Lines 30-34); Regarding claim

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15, Walt further discloses headspace of a liquid sample (fig. 4b, unit 240);

Regarding claim 16, Walt further discloses biological sample (Col. 3, Lines 57).

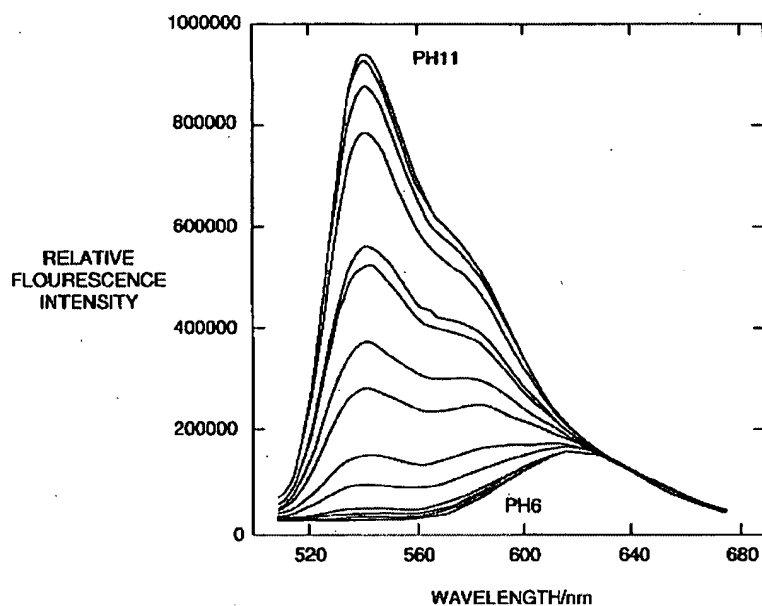


FIG. 1

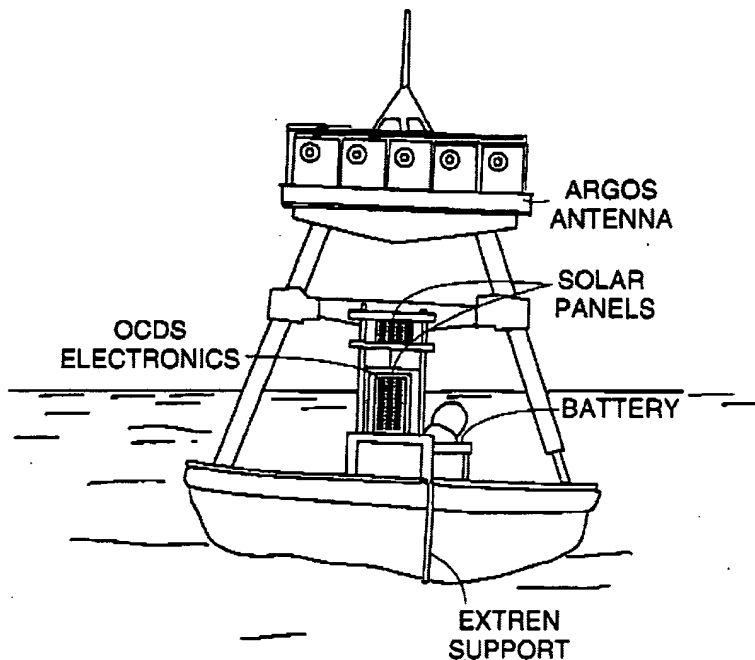
Regarding claims 18, 58, Walt further discloses the biological sample is selected from the group consisting of a breath sample (Col. 5, Lines 1-15, Co₂ in air) ;

Regarding claim 19, Walt further discloses the data is analyzed by comparing the data to a database comprising a data profile from at least one previously-obtained detectable signal from a sample of known composition (fig. 6, 8);

Regarding claim 20, Walt further discloses the analyte in the sample is identified by matching the data to the data profile of a known composition in the database (fig. 8, PPM ratio); Regarding claim 21, Walt further discloses the data is analyzed by comparing the data to a database containing data profiles from a

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plurality of detectable signals (fig. 8, Col. 25, Lines 22-25, update every 30 minutes from remote site).

**FIG. 9**

Regarding claim 22, Walt further discloses each data profile in the database is associated with at least one identifier (fig. 6, Co2/ppm); Regarding claim 24, Walt further discloses the analyte is identified by a best match of the data to a data profile in the database and identifying any identifiers associated with the data profile (fig. 2, 6, Col. 19, Lines 7-15); Regarding claim 17, Walt further discloses the biological sample is selected from the group consisting of a breath sample (fig. 6, Co2), a urine sample, a vaginal sample, a feces sample, a tissue sample and a blood sample. Regarding claim 23, Walt further discloses

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the at least one identifier is selected from the group consisting of location, time (fig. 8, 10), age, sex, disease state, temperature, sample source, sample type, organism, and ethnicity.

Examiner's note: Reminds the applicant that the limitation of transmitting data to a remote location using fiber-optic cable, or an air-wave frequency, were not support in 09/568,784, nor in 09/409,644, nor in 60/140,027 therefore these claims limitation has the priority date is the filling of 09/596,758 which is Jun 15, 2000. See MPEP 2133.01


Contact information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL



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